Title (en)

METHOD AND SYSTEM FOR NON-INTRUSIVELY DETERMINING CROSS-SECTIONAL VARIATION FOR A FLUIDIC CHANNEL

Title (de)

VERFAHREN UND SYSTEM ZUR INTRUSIONSFREIEN BESTIMMUNG DER QUERSCHNITTSVERÄNDERUNG EINES FLUIDISCHEN KANALS

Title (fr)

PROCÉDÉ ET SYSTÈME DE DÉTERMINATION NON INTRUSIVE DE VARIATION TRANSVERSALE POUR UN CANAL FLUIDIQUE

Publication

**EP 3775670 A4 20220209 (EN)**

Application

**EP 18931261 A 20181015**

Priority

- US 201862765220 P 20180820
- US 2018055903 W 20181015

Abstract (en)

[origin: WO2020040800A1] A method is provided for non-intrusively determining cross-sectional variation of a fluidic channel. The method includes creating a pressure pulse in a fluidic channel using a hammer to strike an external surface of a fluidic channel. The method also includes sensing, by one or more sensors, reflections of the pressure pulse; and obtaining, from the one or more sensors, a measured pressure profile based on the sensed reflections of the pressure pulse. A forward model of cross-sectional variation of the fluidic channel is generated based on a baseline simulation. Using the forward model, a simulated pressure profile is generated. Using the measured pressure profile and the simulated pressure profile, an error is determined. When the error is outside a predetermined threshold, the forward model is updated based on the error. An estimate of cross-sectional variation of the fluidic channel based on the forward model is displayed.

IPC 8 full level

**F17D 5/06** (2006.01); **F17D 1/08** (2006.01); **F17D 5/00** (2006.01); **G01N 29/04** (2006.01)

CPC (source: EP US)

**E21B 47/085** (2020.05 - EP); **E21B 47/107** (2020.05 - EP); **F17D 5/06** (2013.01 - EP); **G01B 13/10** (2013.01 - EP); **G01N 29/045** (2013.01 - EP); **G01N 29/222** (2013.01 - EP); **G01N 29/4427** (2013.01 - EP); **G01N 29/4472** (2013.01 - EP); **G06F 30/28** (2020.01 - US); F17D 1/08 (2013.01 - EP); F17D 5/00 (2013.01 - EP); G01N 2291/044 (2013.01 - EP); G06F 2113/08 (2020.01 - US)

Citation (search report)

- [I] US 2016370325 A1 20161222 - YUSUF SHABBIR [CA], et al
- [I] FR 2754898 A1 19980424 - COMEX TECHNOLOGIES [FR]
- [I] US 2018087372 A1 20180329 - STOKELY CHRISTOPHER LEE [US], et al
- See references of WO 2020040800A1

Designated contracting state (EPC)

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DOCDB simple family (application)

**US 2018055903 W 20181015**; AR P190102071 A 20190723; EP 18931261 A 20181015; US 201816474700 A 20181015